

Upgrades of Naval College Road & Booderee Ave Intersection

Background and Summary

Over the last two or three summer seasons Hyams Beach has experienced a gridlock situation as a result of the high demand to visit the “whitest sands in the world”. During this time Council has developed a temporary traffic management control response to vet traffic and therefore prevent traffic gridlock in the village. This temporary traffic control arrangement takes substantial planning and is difficult to implement at short notice. Council has looked at a number of infrastructure options to reduce the cost of and shorten the set up time when traffic management is required.

The first solution Council explored was a standard roundabout at the intersection of Naval College Road and Booderee Ave, given the 80kph speed environment this roundabout needed to be a minimum of 36m in diameter. In developing this solution, it became obvious that queuing of traffic along Naval College Road would still occur as the vetting of vehicles was required to be carried out at the roundabout.

A second solution was explored to see if Hyams Beach and Jervis Bay territory traffic could be separated using slip lanes and a roundabout combination. This was a very high cost arrangement and a slip lane could only be achieved for traffic leaving Jervis Bay Territory not entering it.

A third solution which allowed the problem to be shifted off Naval College Road was explored. This involved a combination of a roundabout on the Illowra Lne and Booderee Ave intersection and a seagull arrangement at the Naval College Road and Booderee Ave intersection. The combination of these two arrangements has allowed for the management of Hyams Beach bound traffic to occur safely without impacting the Jervis Bay Territory traffic and allows for traffic management to be implemented at short notice at a reduced cost.

A detailed summary of the advantages and disadvantages together with sketches of each option is attached.

Upgrades of Naval College Road & Booderee Ave Intersection

Note: All 3 options have been analysed on the assumption that:

1. it will become illegal for vehicles in excess of 12.5m (standard single axle school bus) to enter Booderee Avenue from Naval College Road. Please note this is subject to approval from the RMS and Shoalhaven Traffic Committee
2. A large electronic Variable Message Sign possibly connected to smart technology will be installed on JB Rd prior to the turnoff to Huskisson Road (ie. Hyams Beach carparking full – Booderee NP carparking full)
3. A large electronic Variable Message Sign possibly connected to smart technology will be installed between the entrance to the Vincentia Marketplace and the Wool Rd roundabout (ie. Hyams Beach carparking full – Booderee NP carparking full)
4. Council will instigate “sticker/pass” arrangement for vehicles that have legitimate and regular access requirements into Hyams Beach to allow for a faster vetting process should traffic control be implemented
5. None of the permanent infrastructure provided allows for resident only access lane around traffic control

Standard Roundabout (Dia26m) Intersection Naval College Road / Booderee Ave
Advantages (from the perspective of Hyams Beach residents and visitors):
Slows down all traffic at the intersection at all times (this may be considered a disadvantage to Jervis Bay Territory traffic)
Provides a permanent turnaround arrangement when managing Hyams Beach congestion
Assists Booderee Ave right turn out movement in times of heavy traffic flow as they obtain the right of way over the northbound traffic on Naval College Rd (this may be considered a disadvantage to Jervis Bay Territory traffic)
Essentially all the works are contained within the existing road reserve / footprint
Allows for permanent speed and directional signage at the intersection
Disadvantages (from the perspective of Hyams Beach residents and visitors):
Price is in the order of about \$1.5M subject to detailed design considerations
Doesn't significantly reduce the traffic management costs when having to manage the high traffic in and out of Hyams Beach
Stores southbound traffic on Naval College Road when having to manage the high traffic in and out of Hyams Beach
Significant change to the intersection footprint and Council's ongoing asset management responsibilities

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Large Roundabout (Dia36m plus northbound slip lane) Intersection Naval College Road / Booderee Ave	
Advantages (from the perspective of Hyams Beach residents and visitors):	
Slows down southbound traffic at the intersection at all times (this may be considered a disadvantage to Jervis Bay Territory traffic)	
Provides a permanent turnaround arrangement for when managing Hyams Beach congestion	
Assists Booderee Ave right turn out movements in times of heavy traffic flow as they are physically separated from the northbound traffic on Naval College Rd	
Allows for permanent speed and directional signage at the intersection	
Disadvantages (from the perspective of Hyams Beach residents and visitors):	
Price is in the order of about \$4.0M subject to detailed design considerations	
Requires land acquisition from two separate entities (Jerrinja to the south and Crown Lands to the north) and the land in question has significant environmental considerations	
Doesn't significantly reduce the traffic management costs when having to manage the high traffic in and out of Hyams Beach	
Stores southbound traffic on Naval College Rd when having to manage the high traffic in and out of Hyams Beach	
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Seagull Intersection Naval College Road / Booderee Ave
Advantages (from the perspective of Hyams Beach residents and visitors):
Northbound/Southbound vehicles along Naval College Rd remain uninterrupted by vehicles entering/exiting Hyams Beach during peak periods
Left hand Slip lane on Naval College Rd provides continuous flow into Booderee Ave without impacting on Naval College Rd southbound vehicles, it also helps the right turn out of Booderee Ave as they have less traffic to consider coming to the intersection
Traffic turning right from Booderee Ave does not have to give way to northbound traffic on Naval College Rd and can now merge with this traffic rather than turn into the traffic
Does not require any land acquisition
Improves permanent speed and directional signage at the intersection
Doesn't require significant increase in the footprint of the intersection and thus not a significant increase in Council's asset management responsibilities
Provides a safer right turn movement into Booderee Ave from Naval College Rd as the right turn vehicles are separated from the northbound vehicles
Disadvantages (from the perspective of Hyams Beach residents and visitors):
Doesn't provide for a Left hand slip lane exiting Booderee Ave onto Naval College Rd heading southbound. Note: Traffic turning movements for this option are low and to provide this would require land acquisition from Jerrinja

Illowra Lane (Dia8m) roundabout Booderee Ave / Illowra Lne
Advantages (from the perspective of Hyams Beach residents and visitors):
Slows down southbound traffic entering Hyams Beach and provides an entry statement to Hyams Beach reinforcing the change of speed limit from 80kph to 50kph
Provides a permanent turnaround arrangement when managing Hyams Beach congestion
Does not require any land acquisition
Significantly reduces the time to set up traffic control measures when seeking to prevent gridlock in Hyams Beach. This means that the decision to place traffic control and therefore vet entry into Hyams Beach can be made without any traffic control arrangements to be set up in the village ie. One way traffic flow arrangement in the north of the village
Significantly reduces the traffic management costs when having to manage the high traffic in and out of Hyams Beach by: <ul style="list-style-type: none"> • Allowing warning signs to be permanently installed in advance of the roundabout • Allows traffic controllers that would ordinarily be placed at Naval College Rd and in the village be brought to one location thereby reducing the number of traffic controllers from 6 to 2 • Traffic control protocols will be that those leaving Hyams Beach will have priority over those entering Hyams Beach at the roundabout to avoid any queuing back into Hyams Beach`

Moves the storage of traffic when managing high traffic in and out of Hyams Beach from Naval College Rd to Booderee Ave
Does not require a significant increase in the intersection footprint and thus Council's asset management responsibilities
It breaks up Booderee Ave into an 865m section (Naval College Rd to Illowra Lne) and a 650m section (Illowra Lne to Cyrus St) and therefore makes a reduction in speed limit along Booderee Ave from 80kph to 60kph viable (therefore improving safety on Booderee Ave)
Disadvantages (from the perspective of Hyams Beach residents and visitors):
Vehicles exiting Hyams Beach have to slow down at roundabout and at certain times of the year may have to deal with setting sun
A vehicle up to 12.5m (ie. Vehicles in excess of 12.5m will be prevented from entering Booderee Ave) can go through the roundabout but cannot conduct a U-turn movement. (Under traffic control a 3 point turn manoeuvre is possible)
The intersection is currently not very pronounced as Illowra Lane is a gravel road leg and the roundabout will highlight the intersection of Illowra Lane on Booderee Ave. (This impact will be mitigated by constructing the Illowra Lane leg in a style that reflects a private road entrance feel ie. A layback crossing in the pavement)